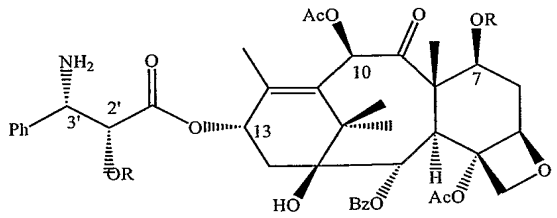
CLAIMS

What is claimed is:

1. A process for preparing a taxane comprising the steps of:

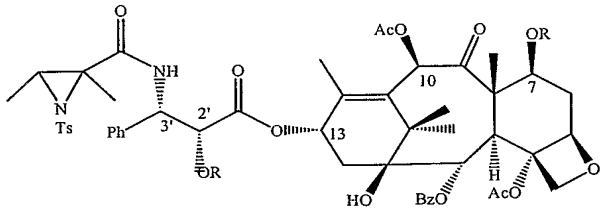
converting cephalomannine to a taxane intermediate having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group; and

converting the taxane intermediate to paclitaxel or docetaxel, wherein the step of converting cephalomannine to the taxane intermediate further comprises the steps of:

converting cephalomannine to a cephalomannine aziridine analogue having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group; and

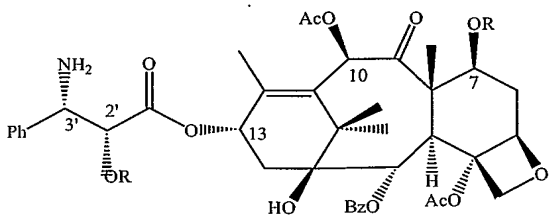
converting the cephalomannine aziridine analogue to the taxane intermediate.

2. The process of claim 1 wherein the taxane intermediate is converted to paclitaxel.

3. The process of claim 1 wherein the taxane intermediate is converted to docetaxel.

4. A process for preparing a taxane comprising the steps of:

converting cephalomannine to a taxane intermediate having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group; and

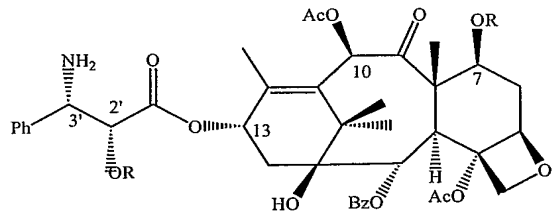
converting the taxane intermediate to paclitaxel or docetaxel, wherein the step of converting cephalomannine to the taxane intermediate comprises reacting cephalomannine with formic acid.

5. The process of claim 4 wherein the taxane intermediate is converted to paclitaxel.

6. The process of claim 4 wherein the taxane intermediate is converted to docetaxel.

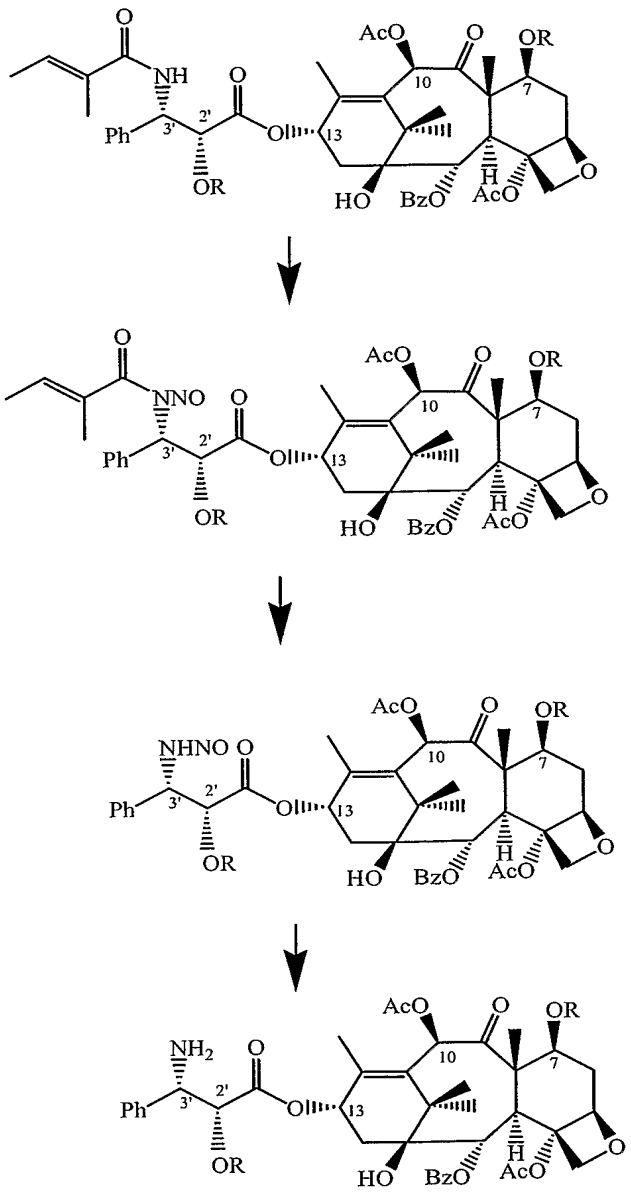
7. A process for preparing a taxane comprising the steps of:

converting cephalomannine to a taxane intermediate having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group; and

converting the taxane intermediate to paclitaxel or docetaxel, wherein the step of converting cephalomannine to the taxane intermediate further comprises the reaction sequence:



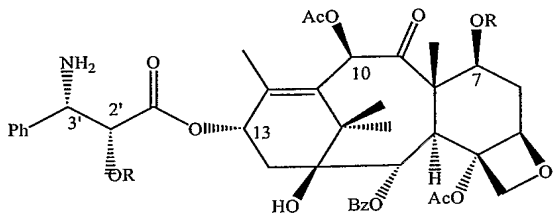
wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group.

8. The process of claim 7 wherein the taxane intermediate is converted to paclitaxel.

9. The process of claim 7 wherein the taxane intermediate is converted to docetaxel.

10. A process for preparing a taxane comprising the steps of:

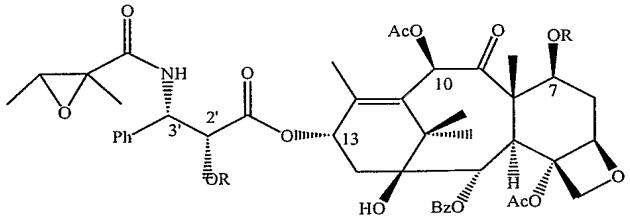
converting cephalomannine to a taxane intermediate having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group; and

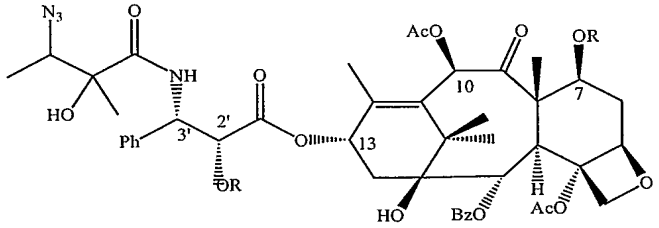
converting the taxane intermediate to paclitaxel or docetaxel, wherein the step of converting cephalomannine to the taxane intermediate further comprises the steps of:

converting cephalomannine to a cephalomannine epoxide analogue having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group;

converting the cephalomannine epoxide analogue to a cephalomannine azido alcohol analogue having the structure:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group; and

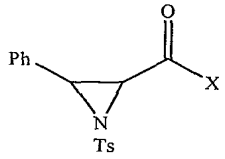
converting the cephalomannine azido alcohol analogue to the taxane intermediate.

11. The process of claim 10 wherein the taxane intermediate is converted to paclitaxel.

12. (New) The process of claim 10 wherein the taxane intermediate is converted to docetaxel.

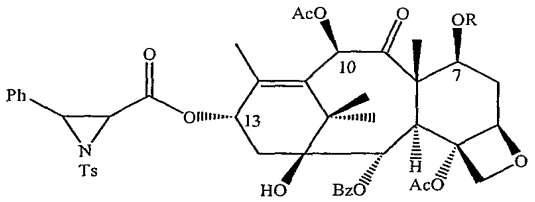
13. A process for preparing a taxane comprising the steps of:

converting cinnamoyl halide to a cinnamoyl halide aziridine intermediate having the structure:



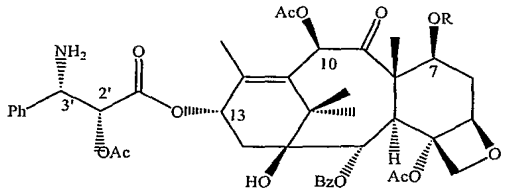
wherein X is halogen;

reacting the cinnamoyl halide aziridine intermediate with protected baccatin III to provide a protected baccatin III aziridine intermediate having the structure:



wherein R is selected from hydrogen and a hydroxy-protecting group;

converting the protected baccatin III aziridine intermediate to a taxane intermediate having the structure:



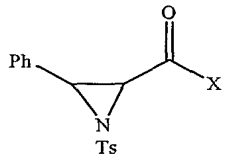
wherein R is selected from hydrogen and a hydroxy-protecting group; and

converting the taxane intermediate to paclitaxel or docetaxel.

14. The process of claim 13, wherein X is chloro.

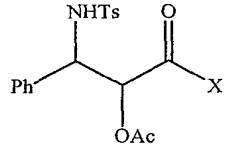
15. A process for preparing a taxane comprising the steps of:

converting cinnamoyl halide to a cinnamoyl halide aziridine intermediate having the structure:



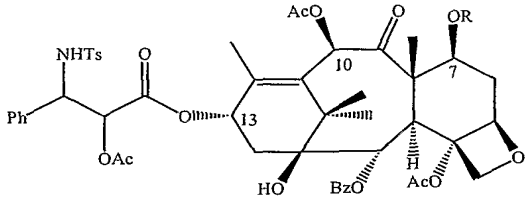
wherein X is halogen;

converting the cinnamoyl halide aziridine intermediate to an open chain cinnamoyl halide intermediate having the structure:



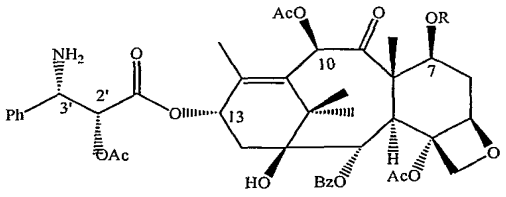
wherein X is halogen;

reacting the open chain cinnamoyl halide intermediate with protected baccatin III to provide a protected baccatin III intermediate having the structure:



wherein R is selected from hydrogen and a hydroxy-protecting group;

converting the protected baccatin III intermediate to a taxane intermediate having the structure:



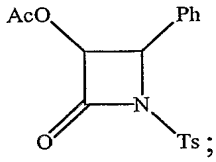
wherein R is selected from hydrogen and a hydroxy-protecting group; and

converting the taxane intermediate to paclitaxel or docetaxel.

16. The process of claim 15, wherein X is chloro.

17. The process of claim 15, wherein the step of reacting the open chain cinnamoyl halide intermediate with protected baccatin III further comprises the steps of:

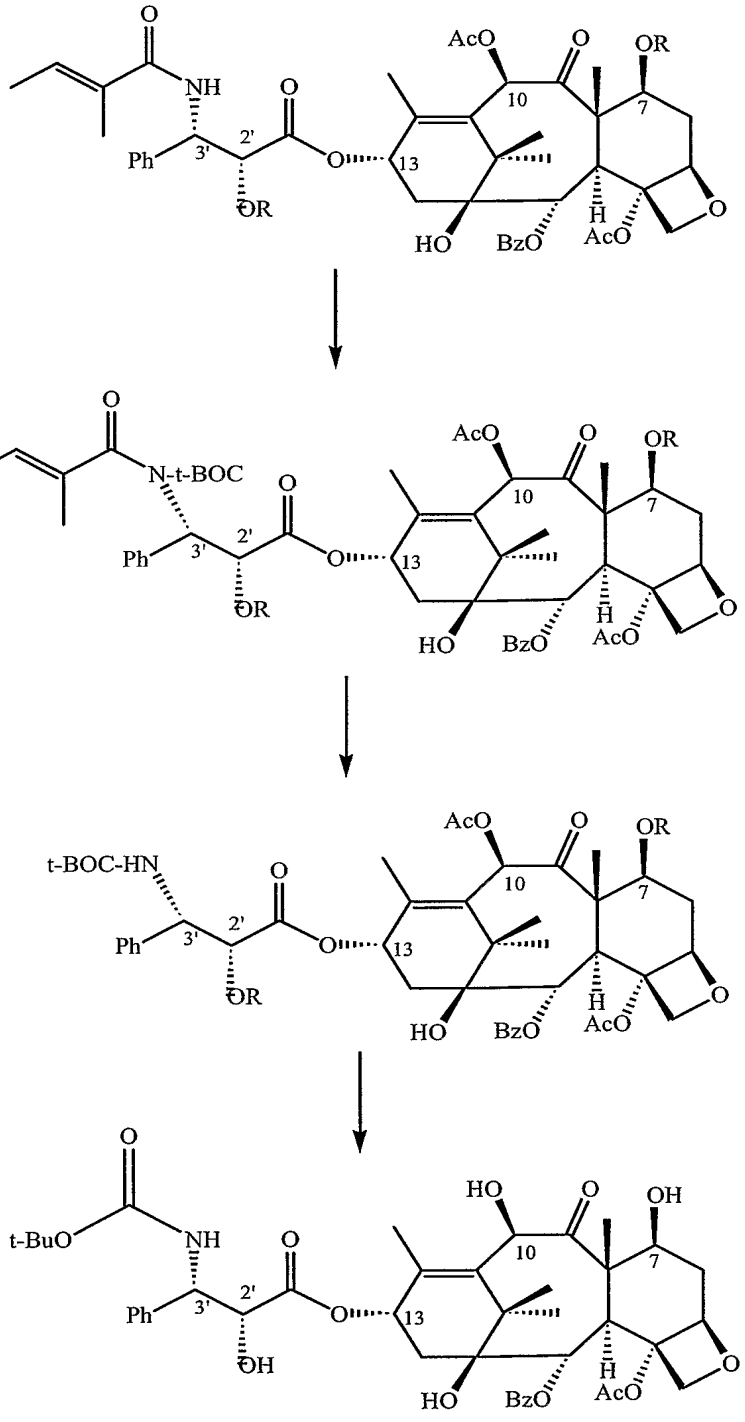
converting the open chain cinnamoyl halide intermediate to a β-lactam intermediate having the structure:



; and

reacting the β-lactam intermediate with protected baccatin III to provide the protected baccatin III intermediate.

18. A process for preparing docetaxel from cephalomannine comprising the reaction sequence:



wherein R is at each occurrence independently selected from hydrogen and a hydroxy-protecting group.